

Tulane professor honored nationally for pioneering research

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Tulane mathematics professor Lisa Fauci is one of the nation's foremost experts in fluid dynamics. (Photo by Paula Burch-Celentano)

Much like computer models predict the paths and strengths of hurricanes, computer modeling can also be used to predict how phytoplankton move through the ocean or how artificial heart valves change the way blood flows in the heart.

This is known as the fluid dynamics of swimming organisms, and it is an area of research that has flourished in the past decade. Tulane University mathematics professor [Lisa Fauci](#) is one of the nation's foremost experts in fluid dynamics, and for that she has been elected as a fellow of the prestigious American Physical Society (APS).

The APS Fellowship Program recognizes members who have made advances in physics through original research and publication, or made significant innovative contributions in the application of physics to science and technology.

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Tulane mathematics professor Lisa Fauci

Fauci was elected as one of eight fellows in the Division of Fluid Dynamics. She was cited for her "pioneering work in using modeling and simulation to understand the basic biophysics of organismal locomotion and reproductive fluid dynamics, and for her emphasis on the integrated study of stroke, form, and flow."

Fellowship is considered a distinct honor signifying recognition by one's professional peers. Each year, no more than half of 1 percent of the Society's membership (excluding student members) is recognized by their peers for election to the status of Fellow of the American Physical Society.

"I am proud to have spent my career working with biologists, oceanographers, engineers and physicists to use mathematics and computation to shed light on the fundamental role of fluid dynamics in many different systems," Fauci said. "As an applied mathematician, I am especially honored to be given this recognition by the APS, which affirms the importance of interdisciplinary collaborations."

This year, a record number of women were elected fellows of the APS. Of the 155 new Fellows, 23 percent are women – a 77 percent increase over the 2017 class.

Fauci was honored during the 71st Annual Meeting of the APS Division of Fluid Dynamics last month in Atlanta.

Fauci's career combines rigorous asymptotic analysis and biological data to validate computational models. She boasts a history of service to the mathematical community and a legacy of mentoring early career scientists and women in

mathematics. She is president-elected of the Society for Industrial and Applied Mathematics (SIAM), the international professional organization of applied mathematicians and will begin her term as president Jan. 1, 2019.